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**COMPREHENSIVE
LAND USE PLAN**

HESPERIA AIRPORT

**January 1991
San Bernardino County
Airport Land Use Commission**

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TABLE OF CONTENTS

	<u>Page</u>
INTRODUCTION and BACKGROUND	1
ABBREVIATIONS and GLOSSARY	3
REFERENCES	4
PLAN CONSISTENCY	5
AIRPORT OPERATIONS and FACILITIES	
Existing	6
Ultimate.....	8
Boundary.....	10
SUMMARY of FINDINGS and RECOMMENDATIONS	11
NOISE IMPACT AREA.....	15
SAFETY IMPACT AREA	23
HEIGHT RESTRICTION AREA	37
OTHER IMPACTS	42
ENVIRONMENTAL REVIEW	42

APPENDIXES

- “A” State Aeronautics Act - Public Utilities Code Section 21670.
- “B” California Administrative Code – Noise Standards - Title 21, Subchapter 6.
- “C” FAR Part 77, Objects Affecting Navigable Airspace.

FIGURES and TABLES

I-1	Plan Consistency – California Government Code, Section 65302.3.....	5
I-2	Hesperia Airport - Location	6
I-3	Hesperia Airport - Existing Layout	7
I-4	Hesperia Airport - Layout Plan, Ultimate.....	9
I-5	Consolidated Impacts - Referral Areas	14
Noise		
II-1	Measured Noise Level Comparisons dB(A)	15
II-2	Community Reaction to Intrusive Noises	16
II-3	Hesperia Airport - 65 CNEL Noise Contour	18
II-4	Noise/Land Use Compatibility Matrix	19
II-5	Maximum Interior Noise Level Criteria	21
II-6	Interior/Exterior Noise Level Standards (San Bernardino County)	22
Safety		
III-1	NTSB, Accident Location Statistics 1974-79	24
III-2	NTSB, Accidents - First Occurrence 1982-87	25
III-3	NTSB, Accidents - First Phase of Operations	25
III-4	Runway Protection Zone	26
III-5	Hesperia RPZ & Safety Zone II	26
III-6	Obstacle Free Zone	28
III-7	Hesperia Safety Referral Zones	29
III-8	Safety Zone - Land Use Guidelines	31
III-9	Suggested Density Criteria	32
III-10	Land Use/Safety Matrix	34
III-11	Land Use Compatibility Guidelines	35
Height		
IV-1	Imaginary Surface - Construction notification	38
IV-2	Imaginary Surface - Isometric View	40
IV-3	Height Restrictions, Planning Boundaries	41

INTRODUCTION AND BACKGROUND

This Comprehensive Land Use Plan (CLUP) was prepared pursuant to Chapter 4, Article 3.5 of the California Public Utilities Code**. The plan was prepared by airport planning consultant, Ray A. Vidal, in conjunction with, and assistance from, staff of the San Bernardino County Airport Land Use Commission (ALUC), the City of Hesperia Planning Department and the Hesperia Airport owner, Mojave Aviation, Inc.

The unique elements associated with aviation and airports, dictates that special considerations be given to planning the peaceful and safe coexistence of airports and their surrounding communities. Consequently, the California State Legislature enacted airport land use planning laws which are intended to:

- provide for the orderly development of each public use airport in the state and the area surrounding these airports so as to promote the overall goals and objectives of the California airport noise standards adopted pursuant to Section 21669 and to prevent the creation of new noise and safety problems.
- protect public health, safety, and welfare by ensuring the orderly expansion of airports and the adoption of land use measures that minimize the public's exposure to excessive noise and safety hazards within areas around public airports to the extent that these areas are not already devoted to incompatible uses.

The general mechanism that the statutes provided for compliance with the airport planning laws, is for counties to establish an ALUC. In turn, the commission shall adopt a CLUP that will provide for the orderly growth of each public airport and the area surrounding the airport within the jurisdiction of the commission.

The initial object of this CLUP is to effectively identify areas, located outside of the airport proper, that would be influenced by the future operations of the airport. Planning boundaries are established on the perimeters of these areas, which are plotted, by applying the specific operational criteria of the airport, to various planning models that have been primarily developed by the FAA.

**Appendix "A", Section 21670 et seq. State Aeronautics Act, Public Utilities Code (Chapter 4, Article 3.5)

In comparison to other airports, Hesperia Airport generates only minimal impacts and a limited safety threat to the surrounding community. Irrespective of this position, every measure necessary, to ensure a safe and harmonious compatibility between the airport and the surrounding environs, needs to be taken.

The uniqueness of Hesperia Airport's functions as an Air Park - Lodge, also need to be recognized. Many existing and future residents in the area, choose to locate their houses within impact areas that would, by their very nature, be objectionable to most citizens in other areas.

WARNING: Land use compatibility is determined by comparing proposed land uses against height, noise and safety guidelines. Any proposed land use must be compatible with all.

The planning boundaries and some specific calculations etc. found within this plan have been compiled from a variety of Federal, State and local guidelines for the specific operations of Hesperia Airport. They are not necessarily applicable to, nor compatible with, any other airport.

The text of this manual, in many cases may contain only a brief description of a particular action or regulation. It is necessary, when using this plan, to treat it as a basic guide only. The appendix and other reference material should be thoroughly reviewed before making any planning decisions.

Once this CLUP has been adopted by the City of Hesperia and the San Bernardino County ALUC, development applications that fall within the criteria of this plan, need not be referred to the ALUC for approval unless it is the specific desire of the City or a developer to do so. Any zoning changes (apart from those recommended, and thus adopted, within this CLUP) contemplated by the City, that lie within the referral areas defined within this plan, must be referred to the ALUC.

ABBREVIATIONS and GLOSSARY

ALUC: Airport Land Use Commission: A California State authorized body, existing in each county, and having the responsibility to develop plans for achieving land use compatibility between airports and their environs.

APZ: Accident Potential Zone: A designated area of higher likelihood of accidents.

BU: Basic Utility: An FAA classification of airport type.

CFR: Code of Federal Regulations: A codification of the general and permanent rules published in the Federal Register by the executive department and agencies of the Federal Government.

CLUP: Comprehensive Land Use Plan: A specific plan, formulated by the ALUC, that will provide for the orderly growth of each public airport and the area surrounding the airport within the jurisdiction of the commission.

CNEL: Community Noise Equivalent Level: An average daily noise level, averaged for each of the 24 hours, and weighted more heavily during evening and nighttime hours to account for the lower tolerance of persons to noise during those hours.

dB: Decibel: A unit for describing the intensity or level of sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to a standard reference pressure.

Displaced Threshold: A runway threshold that is located at a point other than the designated beginning of the runway.

DOA: Division of Aeronautics: A Division of the California, Department of Transportation with responsibility for all public use airports located within the State.

FAA: Federal Aviation Administration: A Federal agency charged with regulating air commerce to promote its safety and development, encouraging and developing civil aviation, air traffic control, and air navigation and promoting the development of a national system of airports.

FAR: Federal Aviation Regulation: Regulations issued by the FAA to regulate air commerce; issued as separate "Parts".

FSS: Flight Service Station: FAA facilities which provide pilot briefings on weather, airports, altitudes, routes, and other flight planning information.

GA: General Aviation: All types of aviation other than that performed by air carriers and the military.

IFR: Instrument Flight Rules: Rules governing the procedures for conducting flight under instrument meteorological conditions.

Ldn: Average day-night sound level.

NAVAID: Navigational Aid: Any visual or electronic device (airborne or on the surface) which provides point to point guidance.

NTSB: National Transportation Safety Board: Federal Government agency that investigates and records all aviation accidents.

OFA: Object Free Area: A two dimensional ground area surrounding runways, taxiways, and taxilanes which is clear of objects except for objects whose location is fixed by function.

OFZ: Obstacle Free Zone: The airspace defined by the runway OFZ and as appropriate, the inner-approach OFZ and the inner-transitional OFZ, which is clear of object penetrations other than frangible NAVAID's.

Runway: A defined rectangular surface on an airport prepared or suitable for landing or takeoff of airplanes.

RPZ: Runway Protection Zone: An area (formerly the clear zone) used to enhance the safety of aircraft operations. It is at ground level beyond the runway end.

Safety Zone: An area located in the vicinity of an airport in which land use restrictions are established to protect the safety of the public.

REFERENCES

Federal Government:

FAA – Advisory Circular 150/5020-1. Noise Control and Compatibility Planning for Airports.

FAA – Advisory Circular 150/5300-13. Airport Design.

FAR Part 77 – Objects Affecting Navigable Airspace.

FAR Part 150 – Airport Noise Compatibility Planning.

California State Government:

DOA – Airport Land Use Planning Handbook.

OPR – Guidelines for the Preparation and Control of the Noise Elements of the General Plan.

Note: while not specifically incorporated as references in this plan, overriding guidelines and more detailed information may be found in the OPR - General Plan Guidelines.

San Bernardino County:

General Plan – Noise Element

– Man-Made Hazards

i. Airport Safety Issue

ii. Noise Issue

ALUC - Interim Plan.

ALUC PLAN CONSISTENCY

Section 65302.3 of the California Government Code - Planning and Zoning Law (Table I-1), requires that City and County General Plans be consistent with ALUC plans. Once adopted by the ALUC, the City of Hesperia and the County of San Bernardino have 180 days to accomplish this consistency, with this CLUP.

In the event that the city council or board of supervisors does not agree with any provision of the plan, it can satisfy the consistency requirement for that provision by overruling the ALUC by a two-thirds vote. The overruling must, however, be made after a public hearing and must be based on specific findings that the proposed action is consistent with the purposes of the Airport Land Use Commission Law.

If the ALUC finds that a city or county has not revised its general plan, or overruled the ALUC, the ALUC may require that city or county to submit all subsequent actions, regulations, or permits in the affected area to the ALUC for consistency determination. If the ALUC finds the proposed action inconsistent, the city or county must hold a public hearing to reconsider its proposal. If, after the public hearing, the city or county still wishes to pursue the action, it may overrule the ALUC, once again, on a two-third vote based on specific findings.

Table I-1

<u>Section: 65302.3</u>	General and applicable specific plans; consistency with airport land use plans; amendment; nonconcurrency findings.
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- (a) The general plan, and any applicable specific plan prepared pursuant to Article 8 (commencing with Section 65450), shall be consistent with the plan adopted or amended pursuant to Section 21675 of the Public Utilities Code.
- (b) The general plan, and any applicable specific plan, shall be amended, as necessary, within 180 days of any amendment to the plan required under Section 21675 of the Public Utilities Code.
- (c) If the legislative body does not concur with any provision of the plan required under Section 21675 of the Public Utilities Code, it may satisfy the provisions of this section by adopting findings pursuant to Section 21676 of the Public Utilities Code.

(Amended by Stats. 1984, c. 1009, § 5.4; Stats. 1987, c. 1018, § 1.)

AIRPORT OPERATIONS AND FACILITIES: Existing

Hesperia Airport is located approximately three miles south of the City of Hesperia (Figure I-2), and it is a privately owned, public use airport. Classified in the National Plan of Integrated Airport System as a General Aviation, basic utility airport, Hesperia Airport has 47, primarily single engine, based aircraft plus one helicopter. The nearest Flight Service Station (FSS) is located at Riverside.

The airport owner and Fixed Based Operator (FBO), Mojave Aviation Inc., operates a flight school and on-airport motel. A small restaurant that attracts many fly-in diners, is located adjacent to the aircraft parking apron (Figure I-3).

Light industrial and manufacturing facilities are located on the western side of the field. Some aircraft are parked in these facilities and access to the runway is gained by using portions of Santa Fe East Road as a taxi-way. Numerous residences are located on the eastern perimeter of the field. Many aircraft are parked in the backyards of these properties, and direct access to the airport taxi-way is available.

Figure I-2

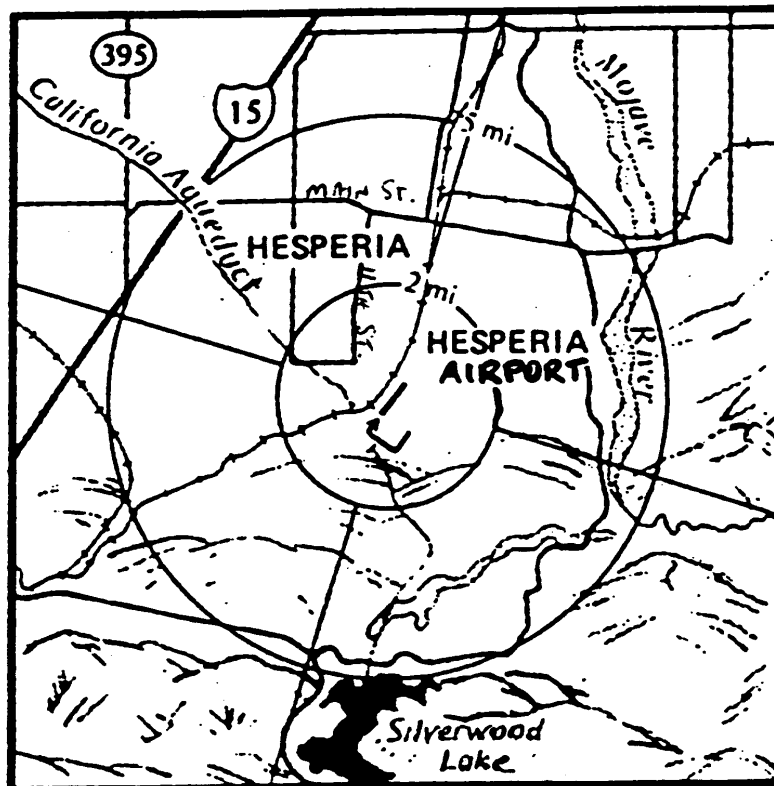
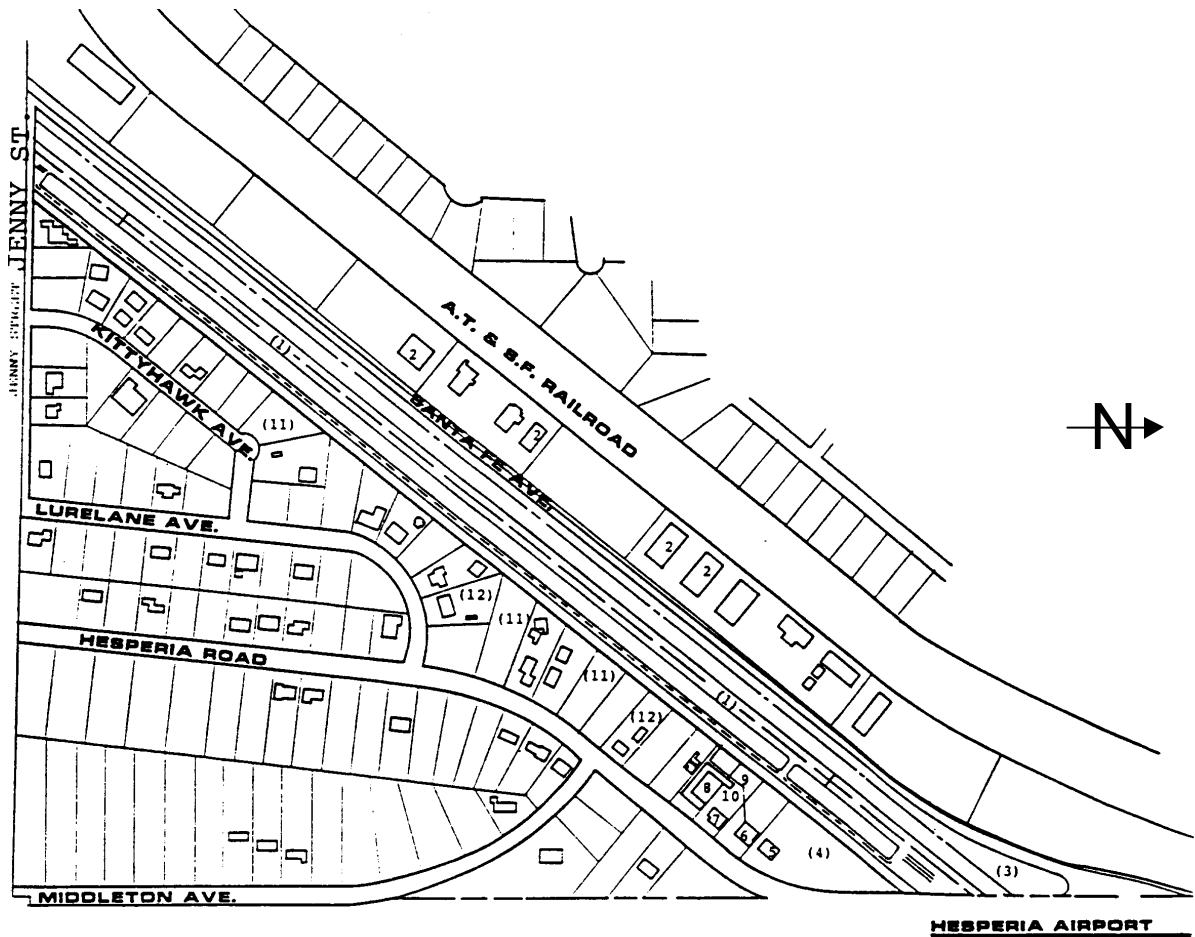


Figure I-3

Existing Airport Layout



Facilities Code:

1. Runway
2. Light Industrial Buildings
3. Hangars
4. Tie-down - Aircraft parking
5. Hanger
6. Restaurant
7. Administration Office & Flight training school
8. Motel
9. Underground fuel storage
10. Fuel & scheduling office
11. Vacant land (zoned residential)
12. Residences

AIRPORT OPERATIONS AND FACILITIES: Ultimate

The initial criteria of a CLUP, is to have it based on a 20 year, operational and facilities projection of the airport. Even with some changes in the airport boundary, the residential and industrial encroachment that now borders the airport, essentially ensures that the present uses of the airport, could not be more than marginally expanded.

Working within the pre-described limitations, an attempt has been made to assess all feasible possibilities for future expansion. These options, shown on Figure I-4, and more fully described herein, are referred to as ultimate possibilities, however they may, or may not, necessarily occur.

At the present time, plans exist to widen the airport's single runway from 50 to 65 feet. This action is in response to a Division of Aeronautics (DOA) recommendation, made as a result of an airport permit compliance inspection.

The hangars located near the northwestern corner of the airfield, and portion of the aircraft tie-down area, running parallel to the runway near the north eastern corner of the airport, are located within an area determined by the FAA to be an Object Free Area (OFA). Under these circumstances, it would be prudent to abandon these uses at their present locations; however, no alternative sites exist within the present airport boundary. Depending upon final determinations made regarding the airport boundary, the airport owner may consider purchasing any of a number of presently located, off-airport sites. These could include an area adjacent to the northwestern corner or the southeastern corner of the airport. If this occurs, then the most easterly portion of the existing tie-down area could be used for transient aircraft parking for the restaurant. Portion of this area could also be isolated and used as a helicopter landing area.

A number of uses of the airfield could be increased without effecting the character of the airport or the impact areas of this plan. Flight school and training could be expanded to incorporate helicopters with additional facilities for class rooms and flight simulators located on or near the field.

Businesses such as air taxi and aircraft repair could be located within an expanded airport boundary. The existing hanger located adjacent to the restaurant, could be enlarged to make an ideal maintenance facility.

Figure I-4

AIRPORT BOUNDARY

At the present time, City streets form the boundaries on three sides of the airfield. The location of each of these streets should raise significant concern to both the City of Hesperia and the airport operator from a safety and liability standpoint. Consideration should be given to abandoning and/or relocating each of the streets, and to the definite restriction of all public access to the area. Also any action should be consistent with FAA recommendation AC 150/5300-13 Section 212b. quote “The airport owner should acquire or control the Runway Protection Zone (RPZ) to meet the clearing and land use standards and recommendations” end quote.

1. Jenny Street: It is now possible for vehicular traffic to drive directly off Jenny Street onto the live runway. Further, portions of Jenny Street lie within the airport’s primary surface and/or RPZ. It is recommended that Jenny Street be barricaded at a point adjacent to the southeastern corner of the airport. Should this action occur, and the airport owner purchase the balance of the land located within the primary surface and RPZ, the operational features of the airport would be enhanced by extending the runway, an approximate 300 feet to the edge of the 3,400 feet elevation contour.
2. Summit Valley Road: Vehicular traffic has been hit by aircraft landing on Runway 21. Portion of Summit Valley Road lies within the airport’s primary surface and/or RPZ. A six foot high, airport perimeter fence lies between Summit Valley Road and the end of the runway. It is recommended that that portion of Summit Valley Road that runs adjacent to the airport perimeter be diverted in a northeasterly direction (from the northeastern corner of the airport) to intersect the planned, new Ranchero Road, at the closest, most engineeringly feasible point. The airport owner could purchase that land lying within the primary surface and RPZ, and relocate the fence from its present position. The length of the runway should not be increased at this end.
3. East Santa Fe Avenue: Aircraft owned by tenants or property owners located on the western side of E. Santa Fe Avenue are forced to use the street to access the runway. No restrictions to public access lie between East Santa Fe Avenue and the runway. FAA height/safety restrictions within the primary surface, prohibit the erection of a fence between the street and the airport. It is recommended that at least public access to East Santa Fe Avenue be restricted by a security gate located adjacent to the northwestern corner of the airport , and that all other potential access points to the airport be secured. Consideration should be given to abandoning and/or relocating the street.

SUMMARY OF FINDINGS AND RECOMMENDATIONS

This section provides a consolidation of all Hesperia Airport generated impacts. These impacts have been grouped into three primary referral areas. Note that a more detailed description of each impact is provided elsewhere in this plan. The boundaries of these referral areas are shown on an extract of the City of Hesperia: Draft Land Use Plan - Alt. #3 (Figure I-5).

Referral Area “A”

This is the most critical safety impact area associated with any airport. The area is made up of the FAA classified primary surface of the airport, the Runway Protection Zone (RPZ) and a portion of the approach and departure surface. The majority of this area is designated as an Object Free Area (OFA) with this status also applying to moving objects i.e. vehicles.

The RPZ was formerly known as the “Clear Zone”. The intent is to ensure that this zone remains clear of all obstacles that could create a potential hazard to aviation. The FAA has recommended that the airport owner acquire all land that lies within this zone.

Land uses within Referral Area “A” are extremely restricted. Under normal circumstances, no structures whatsoever are permitted. Few people (no people is preferred, or if necessary only up to 10 persons per acre at any one time) should be allowed within the outer area of the RPZ. Some agricultural land use (provided it doesn’t attract birds) would be acceptable. Should the airport owner acquire the RPZ land, then portions of the lots surrounding this area could be used for airport related uses such as light aircraft tiedown.

At Hesperia Airport, the total noise level (determined by the State of California to be of an annoyance level [65 CNEL]) falls within the primary surface, located within the existing boundary of the airport. As the level and location of this noise is consistent with the operations of the airport, no recommendations pertaining to noise are made within this referral area.

Three city streets are located within Referral Area “A”. A more detailed analysis of the consequences of public streets in this location is discussed on the previous page (airport boundary).

Referral Area “B”

This area is made up of “Safety Zone II” plus the balance of the approach and departure zones not falling within the RPZ. Traditionally, this area experiences a high percentage of aircraft accidents. As such, residential and industrial development should be greatly curtailed.

Recommendations
Referral Area “A”

The land area located within the RPZ at the northern end of the runway should be rezoned from Low Density Residential to Open Space.

The land area located within the RPZ at the southern end of the runway should be rezoned from Industrial to Agricultural or Open Space.

Consideration should be given to the recommendations on page 10 regarding the airport boundary and the City streets.

A limited number of detached, Single Family dwellings are acceptable within Referral Area “B”. All public buildings are prohibited in this area, along with any other facility or outdoor usage that could result in a congregation of fifty (50) persons or more per acre.

Limited light industrial or manufacturing land uses would be acceptable within this area provided that population density restrictions are adhered to. No use what-so-ever of any hazardous nature is permitted.

The aircraft noise level in this area is below the level, determined by the State of California, to be of concern. In some cases, noise from aircraft taking-off over this area could be of annoyance to some people at outdoor activities.

Recommendations
Referral Area “B”

Low Density Residential zoning should be changed to Very Low Density Residential zoning at the northern end of the airport.

At the southern end of the airport, the Special Development zoning should be maintained with use not exceeding the equivalent of the City’s Very Low Density zoning.

All development should be subject to obtaining a standard form of Avigation easement.

Referral Area “C”

This referral area is made up of Safety Zone III plus the Conical, Horizontal and Transitional Surfaces. The threat of aircraft accidents in this area is below that of the other referral areas; however, some do occur, and it is necessary to ensure that some restrictions are imposed when planning or developing in this area.

Any large public assembly in this area is a safety concern. Large movie theaters, stadiums and arenas are not compatible land uses in this area. Smaller theaters (single or double) along with neighborhood and community shopping centers are acceptable. Regional shopping centers are not.

Light industrial and manufacturing facilities are acceptable within this area, provided that they do not generate any visual, electronic or physical hazards to aircraft. No above ground hazardous materials are allowed; however, underground fuel tanks used at service stations etc. are acceptable. General business facilities, office buildings, motels, banks and eating and drinking facilities are permitted. In all cases, consideration should be given to some form of shielding, such as the use of trees etc.

Should the airport owner purchase the RPZ land at the northern end of the airport, existing zoning along side the airport (industrial on the western and commercial on the eastern) could be extended along the perimeter of the RPZ. Uses consistent with aviation are preferred in all industrial areas adjacent to the airport.

Minimal noise from the airport is apparent in most of this area. The exception is those residences and industrial facilities located along the perimeter of the airport.

Height restrictions apply in this area. It is necessary to notify the FAA of all planned construction in referral area “C” that would exceed a height of an imaginary surface extending outward and upward at a slope of 100 to 1 from the nearest point of the runway.

Recommendations Referral Area “C”

No changes to the existing residential zoning should be made. Some density limitations could be considered within the “Special Development” zoned region.

Existing Industrial, Commercial and Planned Mixed Use zoning should be maintained with use limitations, consistent with this report, initiated.

All development should be subject to obtaining a standard form of Avigation Easement.

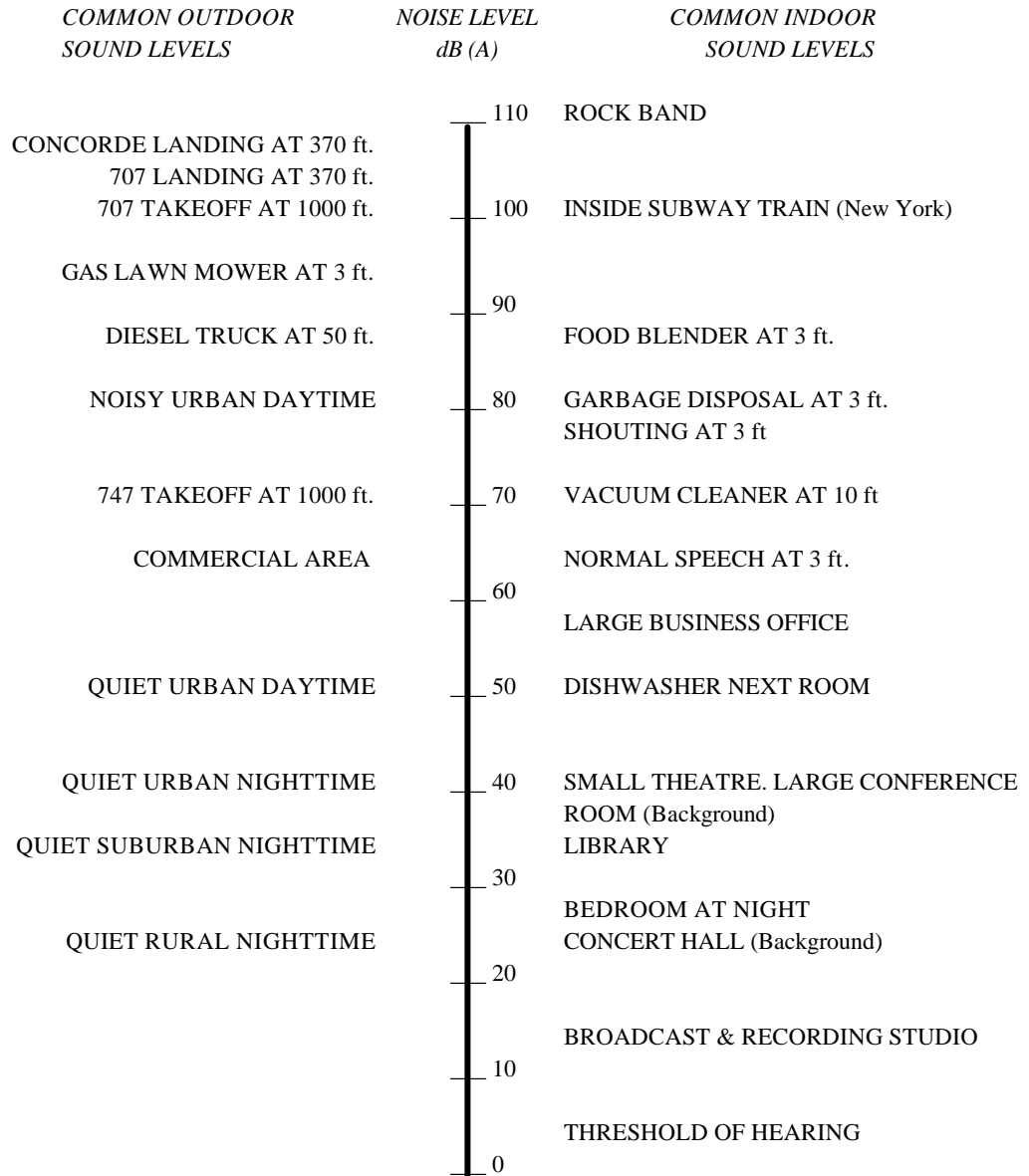
Figure I-5

NOISE IMPACT
and
REFERRAL AREAS

NOISE

The intensity of aircraft noise varies, depending upon the type of aircraft and the proximity of the listener. The ear shattering sound of a large jet aircraft at close range is a far cry from the sound of a small, single engine, general aviation aircraft at a distance of a couple of hundred yards. Examples of common indoor and out door sound levels are provided in Figure II-1.

Figure II-1



The dB scale measures single event noise incidents on an occurrence by occurrence basis. With aircraft noise the sound level increases as the aircraft approaches and it diminishes as the aircraft flies away. The sound measurements of the events itemized in Figure II-1 were taken at the peak of the occurrence.

Aircraft noise has a varying effect on individuals. Jet noise in the middle of the day on a busy street, may hardly even be noticed. The same level of noise at night, when relaxing or awakened from sleep, could be extremely annoying. For land use planning purposes, it is important to know when annoyance results in community action and just how much action. The way community response relates to noise exposure level is illustrated in Figure II-2. (Note that the day-night average sound level [L_{dn}] shown in that figure is essentially equivalent to the Community Noise Equivalent Level [CNEL] scale.)

Figure II-2

COMMUNITY REACTION

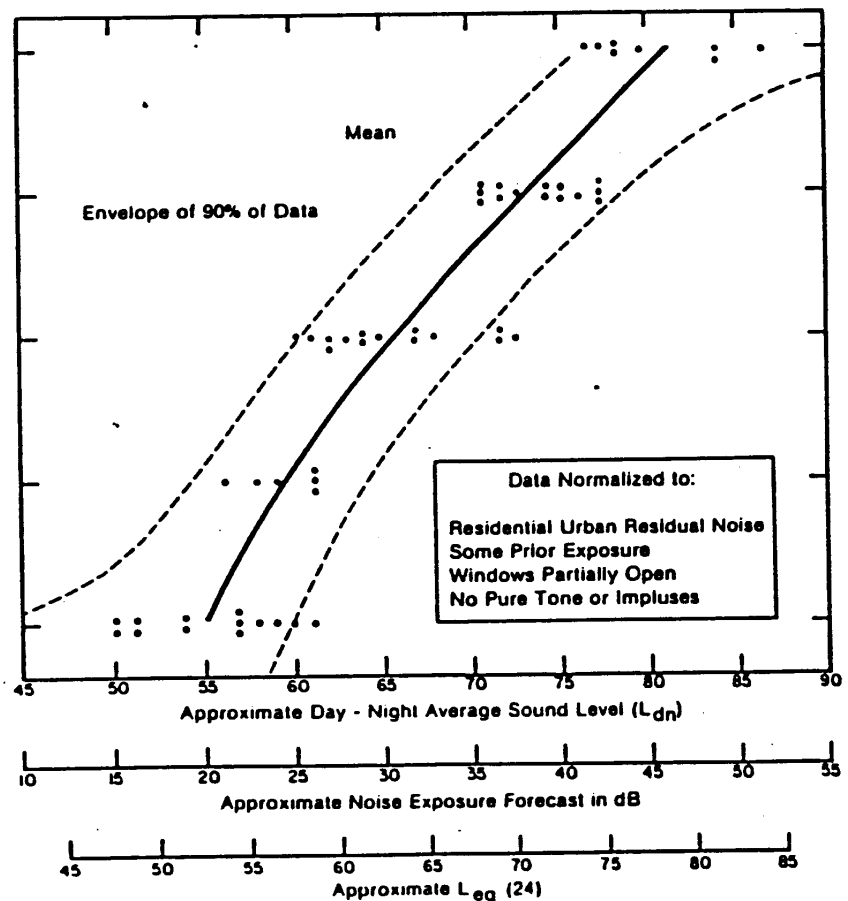
Vigorous community action

Several threats of legal action, or strong appeals to local officials to stop noise

Widespread complaints or single threat of legal action

Sporadic complaints

No reaction, although noise is generally noticeable



COMMUNITY REACTION TO INTRUSIVE NOISES

Guidelines for airport noise planning have been established by various Federal, State and Local Government agencies. (See listing under “references” on page 7.) The California Division of Aeronautics, Noise standards are included in Appendix “B”**.

The State of California developed a noise rating method (CNEL) that is used to calculate community noise exposure around airports. Note that the Federal Government modeled its equivalent (Ldn), from California’s CNEL, and only a marginal difference (less than 1 db at 65 CNEL) exists between the two scales. CNEL is calculated in decibels and represents the average daytime noise level during a 24 hour day, adjusted to an equivalent level to account for the lower tolerance of people to noise during evening and night time periods relative to the day time period.

California has adopted a standard (PUC Section 21669) for the acceptable level of aircraft noise for persons living in the vicinity of airports. This standard is 65 CNEL. This plan identifies the 65 CNEL contour at Hesperia Airport as remaining within the existing airport boundary (Figure II-3).

To help more closely gauge the level of Hesperia Airport’s noise in relationship to the surrounding environment, the following is a comparison with the noise levels generated by the Union Pacific & AT & SF Railway line. Note that the airport runway parallels the railroad at a distance of 500 feet.

At a level of 65 CNEL (or Ldn), the airport impact area extends less than 100 feet from the runway. For trains the distance is 350 feet from the railroad line. At a level of 60 CNEL/Ldn, the distance is less than 250 feet from the runway and over 600 feet from the railroad. The 60 CNEL/Ldn contour for the railway extends past the runway by up to 100 feet; however, the same contour for the airport extends only half of the distance from the runway to the railroad. (Railway noise levels were derived from the San Bernardino General Plan, Noise Element - Appendix D.)

Due to the unique nature of Hesperia Airport as an Air-Park, plus the fact that the provision to build and occupy structures within an unusually close proximity to the runway exists, a 60 CNEL contour has been plotted on Figure III-3. Note that this contour extends off the airport property and into the surrounding area on those lots that adjoin the airport perimeter.

A matrix showing land use compatibility for community noise environments is included (Figure II-4).

** Appendix “B” - California Administrative Code Title 21, Subchapter 6. Noise standards.

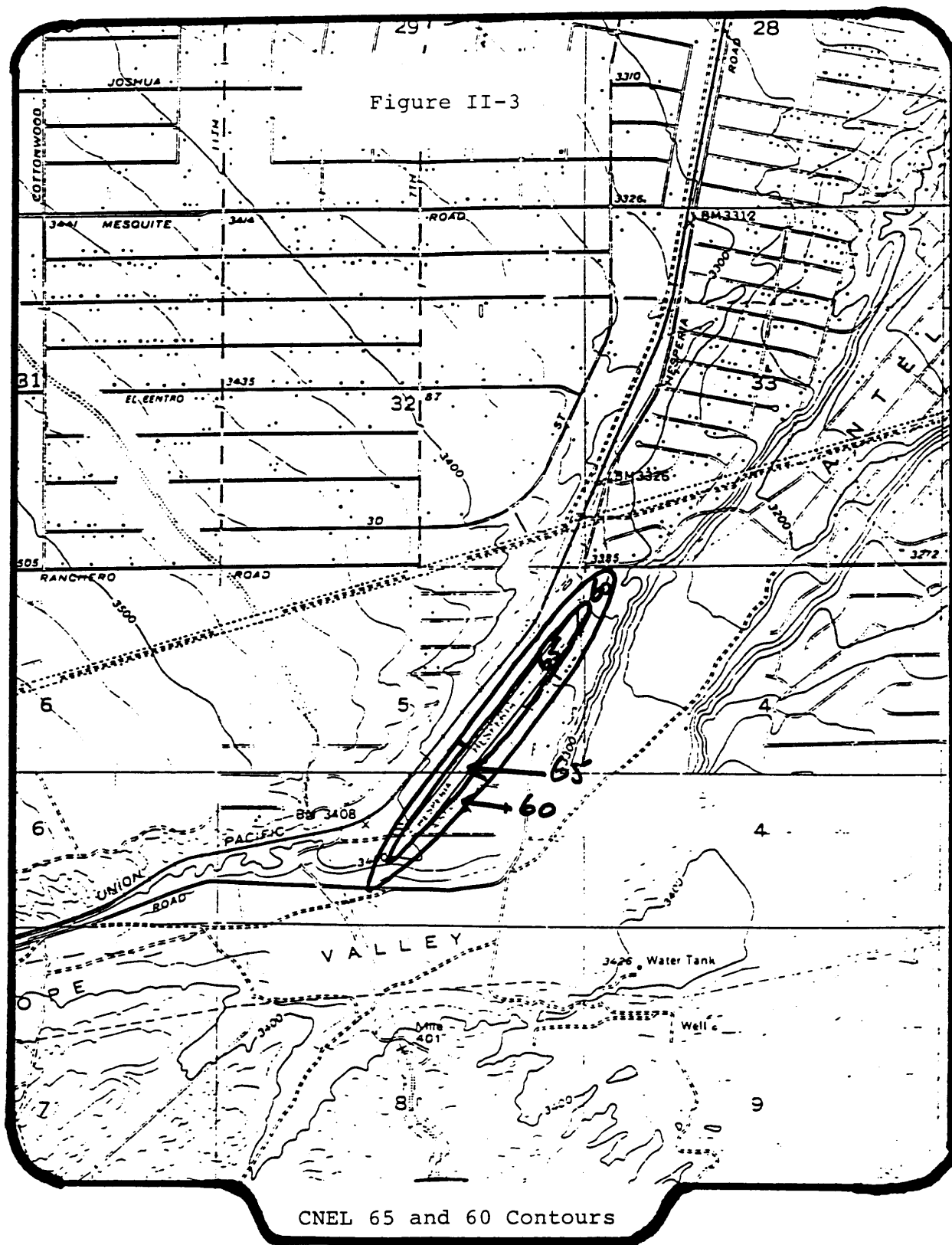
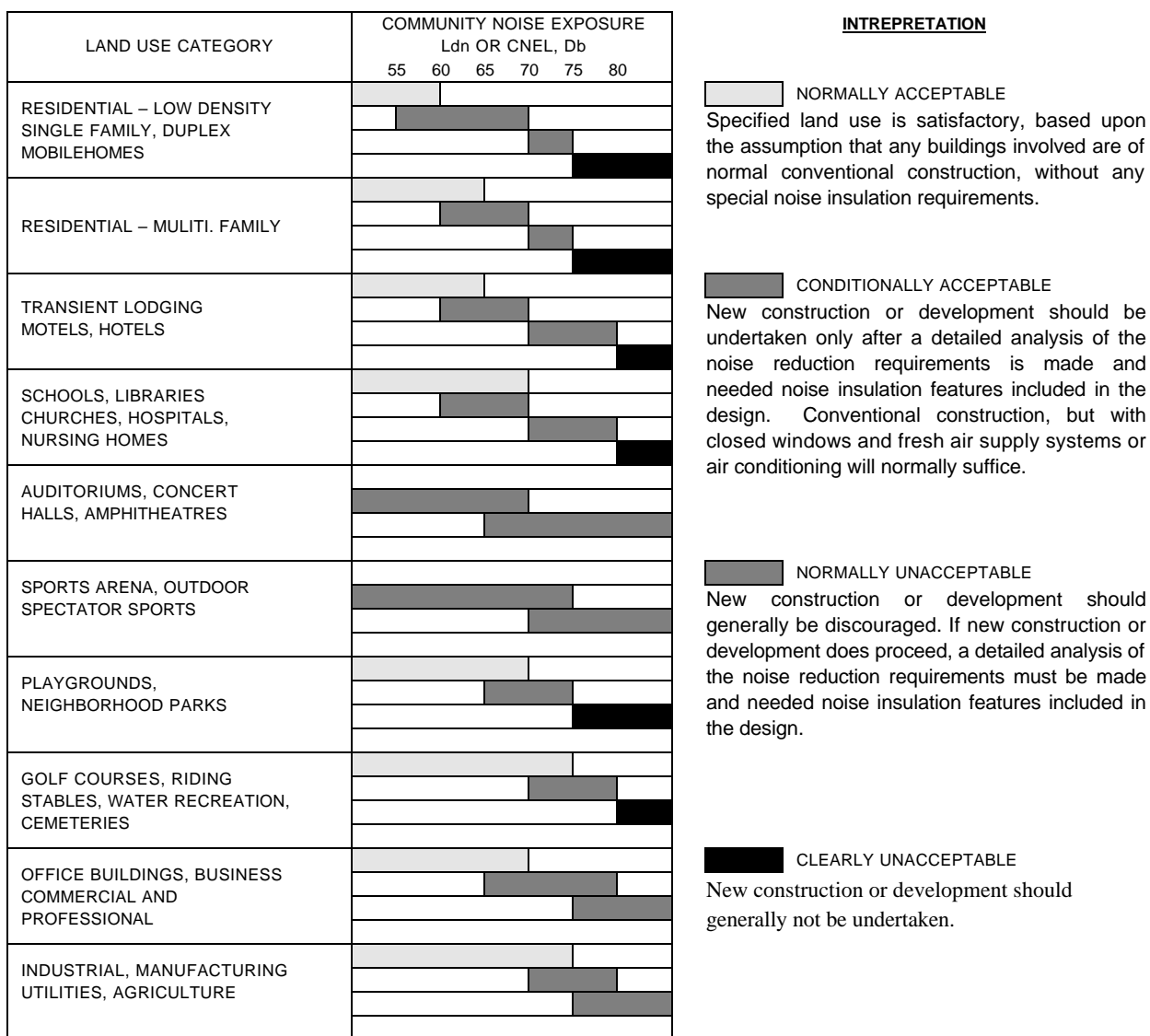


Figure II-4

LAND USE COMPATIBILITY FOR COMMUNITY NOISE ENVIRONMENTS



Source:
Appendix A
Guidelines for the preparation
and content of the
Noise Element of the General Plan
The Governor's Office of Planning and Research

In the State Airport Land Use Planning Handbook, an analysis of ALUC plans of a number of general aviation airports, showed that residential development was discouraged in the 60-65 CNEL noise impact area. Also, as Hesperia Airport caters only to VFR operations, the potential for annoyance (and thus complaints) exists anywhere within the airport traffic pattern and anywhere aircraft are flying below 500 feet. This is traditionally within the 55 CNEL contour which generally extends for up to a mile from the runway, at a width of between ¼ to a ½ a mile as flown by pilots.

Land use restrictions within the 60 CNEL and in some cases the 55 CNEL impact areas, may include prohibiting residential development underneath the traffic pattern or limiting development to low density uses. Other measures that have been recommended where aircraft are below 500 feet and in the general overflight area include requirements for noise easements and notification of prospective property owners.

Note that all existing structures located on the perimeter of the 60 CNEL contour at Hesperia Airport, are used for light industrial uses or in the case of residences, the specific appeal of the closeness of the airport is the reason for their location.

San Bernardino County - General Plan, Noise Element, contains the following policy:

- | | |
|-----------|--|
| Exterior: | Residential construction shall not be permitted in areas where the aircraft noise exposure exceeds an Ldn of 65 dB within the exterior living spaces. |
| Interior: | Building construction shall mitigate the aircraft noise exposure to an Ldn of 45 dB or less within the interior living space of all new residential units. |

In terms of building construction, all residences within the 60 to 65 dB Ldn range will require forced air ventilation with openable windows in a closed position.

In addition, San Bernardino County shall enforce the State Noise Insulation Standards (California Administrative Code, Title 24) and Chapter 35 of the Uniform Building Code (UBC). Title 24 requires that an acoustical analysis be prepared for all new developments of multi-family dwellings, condominiums, hotels and motels proposed for areas within the 60 dB Ldn (or CNEL) contour of a major noise source for the purpose of documenting that an acceptable interior noise level of 45 dB Ldn (or CNEL) or below will be achieved with the windows and doors closed. UBC Chapter 35 requires that common wall and floor/ceiling assemblies within multi-family dwellings comply with minimum standards for the transmission of airborne sound and structure-borne impact noise.

The building uses identified in the previous paragraph are the subject of both State and San Bernardino County standards. Note that these standards clearly do not apply to single family dwellings. Figure II-5 provides an example of the criteria adopted in several ALUC plans. Figure II-6 was taken from the San Bernardino County General Plan - Noise Element.

Figure II-5

Recommended Maximum Interior Noise Level Criteria for Intermittent Noise

<u>Generalized Land Use (Occupancy)</u>	<u>Maximum Int. Intermittent Noise - dBA</u>	<u>Basis for Criteria*</u>
A. RESIDENTIAL - SINGLE AND TWO FAMILY DWELLINGS		
1. Living Areas		
a. Daytime	60	Conversation - 5 ft. - normal voice
b. Nighttime	55	Conversation - 10 ft. - normal voice
2. Sleeping Areas	40*	Sleeping
B. RESIDENTIAL		
Multiple Family Apartments	Same as A.	Same as A.
C. EDUCATIONAL FACILITIES, ETC.		
1. Concert Hall	25	Intrusion of noise may spoil artistic effect
2. Legitimate Theater	30	Intrusion of noise may spoil artistic effect
3. School Auditorium	35	Minimize intrusion into artistic performance
4. School Classroom	55	Speech communication - 20 ft. - raised voice
5. School Laboratory	60	Speech communication - 6 ft. - normal voice
6. Church Sanctuaries	45	Speech communication - 50 ft. - raised voice
7. Library	65	Speech communication - 3 ft. - normal voice
D. RECREATIONAL FACILITIES		
1. Motion Picture Theater	45	Minimize intrusion into artistic performance
2. Sports Arena	75	Conversation - 2 ft. - raised voice
3. Bowling Alley	75	Conversation - 2 ft. - raised voice
E. COMMERCIAL, MISCELLANEOUS		
1. Hotel, Motel Sleeping	40	Sleeping
2. Hospital Sleeping	40	Sleeping
3. Executive Offices, Conf. Rooms	55	Speech communication - 12 ft. - normal voice
4. Staff Offices	60	Speech communication - 6 ft. - normal voice
5. Sales, Secretarial	65	Satisfactory telephone use
6. Restaurants	65	Conversation - 4 ft. - normal voice
7. Markets, Retail Stores	65	Conversation - 4 ft. - normal voice
F. LIGHT INDUSTRIAL		
1. Office Areas	See E-3, 4, 5	See E-3, 4, 5
2. Laboratory	60	Speech Communication - 6 ft. - normal voice
3. Machine Shop	75	Speech Communication - 3 ft. - raised voice
4. Assembly, Construction	75	Speech Communication - 2 ft. - raised voice
G. HEAVY INDUSTRIAL		
1. Office Areas	See E-3, 4, 5	See E-3, 4, 5
2. Machine Shop	75	Speech Communication - 3 ft. - raised voice
3. Assembly Construction	75	Speech Communication - 2 ft. - raised voice

* Some ALUCs have used 50 dBA for sleeping areas

Figure II-6

Interior/Exterior Noise Level Standards
Mobile Noise Sources

Land Uses		Ldn (or CNEL), dB	
Categories	Uses	Interior ¹	Exterior ²
Residential	Single & multi-family, duplex	45	60 ³
	Mobile Home	45	60 ³
Commercial	Hotel, motel, transient lodging	45	60 ³
	Commercial retail, bank, restaurant	50	?
	Office building, research & development, professional offices	45	65
	Amphitheater, concert hall, auditorium, movie theater	45	?
Institutional/ Public	Hospital, nursing home, school, classroom, church, library	45	65
Open Space	Park	?	65

1. Interior living environment excluding bathroom, kitchens, toilets, closets corridors.
2. Outdoor environment limited to:
 - Private yard of single family dwellings
 - Multi-family private patios or balconies
 - Mobile home parks
 - Hospital/office building patios
 - Park picnic areas
 - School playgrounds
 - Hotel and motel recreation areas
3. An exterior noise level of up to 65 dB Ldn (or CNEL) will be allowed provided exterior noise levels have been substantially mitigated through a reasonable application of the best available noise reduction technology, and interior noise exposure does not exceed 45 dB Ldn (or CNEL) with windows and doors closed. Requiring that windows and doors remain closed to achieve an acceptable interior noise level will necessitate the use of air conditioning or mechanical ventilation.

SAFETY IMPACT
and
REFERRAL AREAS

SAFETY

The overriding objective of California's airport land use planning law is to protect the public's health, safety and welfare. Two critical elements must be addressed when assessing safety issues and attempting to determine measures that would effectively minimize potential injury and/or loss of life that could result from any incident related to an aircraft. These are safety elements on the ground and safety elements in the air. One effective mitigation measure is to initiate height restrictions on structures that impose into the nation's airspace. This measure is more fully explained elsewhere in this plan under "airspace restrictions".

In proportion to overall air operations, the actual incidence of aviation accidents is extremely minute. Additionally it is impossible to plan in advance (at a local government level), measures that would minimize loss of life on the ground, should an accident, such as a 747 crash into a heavily populated urban area, occur. As such, the potential for such a disaster is not explored within this plan.

By its very nature, Hesperia Airport, with its minimal number of aircraft operations and its location within a sparsely populated area, possess only a limited safety threat, in comparison to other airports in the country. Notwithstanding this position, it is still essential that every effort be made to minimize any potential impact, should an aircraft crash of any type occur, within the City of Hesperia or within the surrounding region.

No clear cut guidelines exist in respect to appropriate land use and/or population densities around airports verses the potential for injury or property damage should an accident occur. An assessment of National Transportation Safety Board (NTSB) statistic (Figure III-1) reveals that while an overwhelming majority of general aviation accidents occur on the airport, the potential for an accident to take place near the airport is still substantial, and in the majority of cases, more serious in nature. Further that accidents near airports tend to be evenly divided between takeoff and landing.

The obvious solution to minimizing injury or loss of life on the ground, should an aircraft accident occur near the airport, is to ensure that, no structures are, or, no activities involving the public take place, in areas extending outwards from the runway centerline. This area is referred to as a safety zone, and under normal circumstances could encompass an area identical to the approach zone, more fully described on page 39.

Figure III-1

Major General Aviation Accidents (1974-1979)

Landing or Takeoff	Location	Detailed Phase of Operation	Number of Accidents	%
Takeoff	On-Airport	Run	1,251	
		Aborted Takeoff	384	
	Near Airport	Initial Climb	3,182	100%
	Other		<u>236</u>	
	Total		5,053	
Landing	On-Airport	Level Off-Touchdown	3,909	
		Roll	3,336	
	Near Airport	Traffic Pattern- Circling	542	16.7%
		Final Approach - VFR	1,706	52.6
		Initial Approach	61	1.9
		Final Approach - IFR	228	7.0
		Go Around - VFR	653	20.2
		Missed Approach - IFR	<u>51</u>	<u>1.6</u>
	Near Airport Sub-Total		3,241	100.0%
Other			497	
Total			10,983	

Note: Major accidents are accidents in which the aircraft was destroyed or substantially damaged.

Note: Due to a revision of NTSB formats, the most recent statistics showing the location of GA accidents in relationship to airports, were published for the period 1974-1979 (Figure III-1).

Figure III-3 shows more recent statistics; however, on-airport accidents during landing and take-off were not broken out of the broader classifications. Irrespective of these considerations, little difference in the percentages between the categories is apparent with the more recent figures, and thus the percentages of accident locations derived from the 1974-1979 statistics remains constant.

Figure III-2

MOST PREVALENT FIRST OCCURRENCES
ALL ACCIDENTS
1987 AND 1982 - 1986

Type of Occurrence	1987		1982 - 1986	
	No.	Percent	Mean	Percent
Loss of control - in flight	326	13.1	369.6	12.5
Loss of engine power (total) non-mechanical	259	10.4	335.0	11.3
Loss of control - on ground	322	13.0	317.6	10.7
In flight collision with object	186	7.5	236.2	8.0
In flight encounter with weather	150	6.0	203.2	6.9
In flight collision with terrain/water	109	4.4	192.8	6.5
Loss of engine power	171	6.9	184.8	6.2
Hard landing	132	5.3	155.2	5.2
Airframe/component/system failure/malfunction	132	5.3	147.2	5.0
Loss of engine power (total) - mech failure/malf	113	4.5	132.4	4.5
Overrun	77	3.1	98.2	3.3
On ground collision with object	65	2.6	84.8	2.9
Loss of engine power (partial) - mech failure/malf	51	2.1	71.4	2.4
Undershoot	41	1.6	56.0	1.9
Loss of engine power(partial) - non-mechanical	53	2.1	49.6	1.7
On ground collision with terrain/water	39	1.6	46.6	1.6
Midair collision	41	1.6	44.0	1.5
Nose over	25	1.0	38.6	1.3
(All other types)	194	7.8	198.2	6.7
Number of Aircraft	2486	100.0	2961.4	100.0

Figure III-3

MOST PREVALENT FIRST PHASES OF OPERATION
ALL ACCIDENTS
1987 AND 1982 - 1986

Phase of Operation	1987		1982 - 1986	
	No.	Percent	Mean	Percent
Landing	639	25.7	756.0	25.5
Takeoff	505	20.3	612.2	20.7
Cruise	379	15.2	494.4	16.7
Maneuvering	344	13.8	403.4	13.6
Approach	298	12.0	378.6	12.8
Climb	80	3.2	81.4	2.7
Taxi	67	2.7	79.6	2.7
Descent	77	3.1	79.6	2.7
Other	23	.9	44.0	1.5
Standing	40	1.6	31.6	1.1
No reported	9	.4	.6	.0
Number of Aircraft	2486	100.0	2961.4	100.0

Located within this safety zone, is an area known as the Runway Protection Zone (RPZ). This area was formally known as the runway clear zone. FAA Advisory Circular 150/5300-13 defines the RPZ as trapezoidal in shape and centered about the extended runway centerline. It begins 200 feet beyond the end of the area usable for takeoff or landing. Displacing the threshold does not change the beginning point of the RPZ. The RPZ dimensions are functions of the design aircraft, type of operation, and visibility minimums (Figure III-4). The RPZ at Hesperia Airport extends for a distance of 1,000 feet from an initial width of 250 feet to an outer width of 450 feet. These dimensions encompass a land mass of 8.035 acres. The remaining area of the approach zone makes up "Safety Zone II" (Figure III-5).

Figure III-4

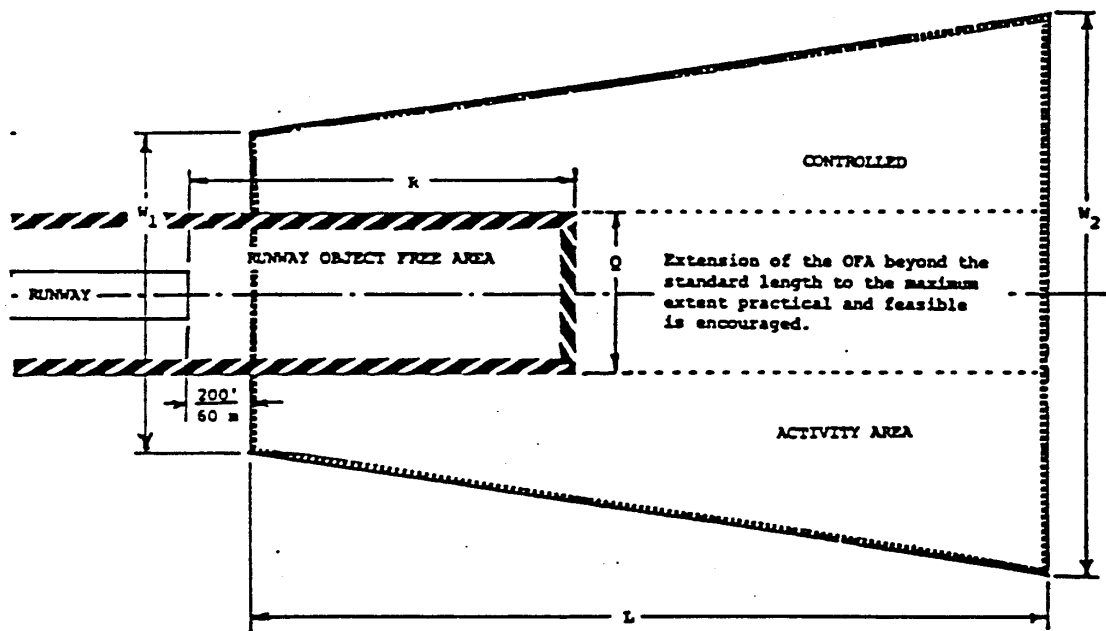
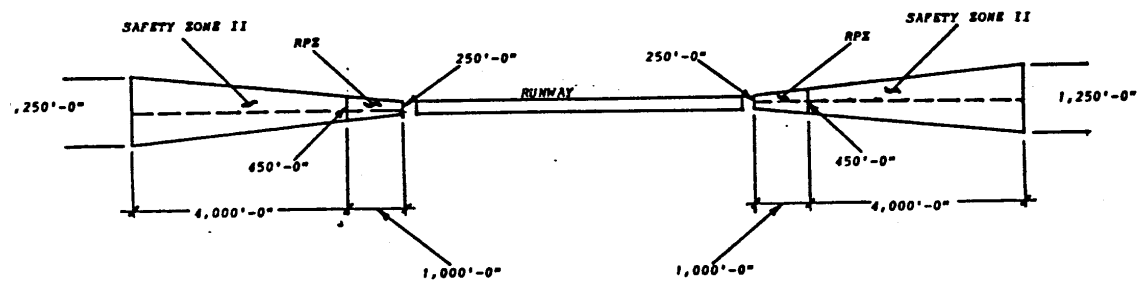


Figure III-5



Also located within the RPZ is a two dimensional ground area known as the runway Object Free Area (OFA). The runway OFA (Figure III-4) clearing standards preclude parked airplanes and objects, except objects whose location is fixed by function. The OFA extends for a distance of 300 feet from the end of the runway and surrounds the runway at a width of 250 feet.

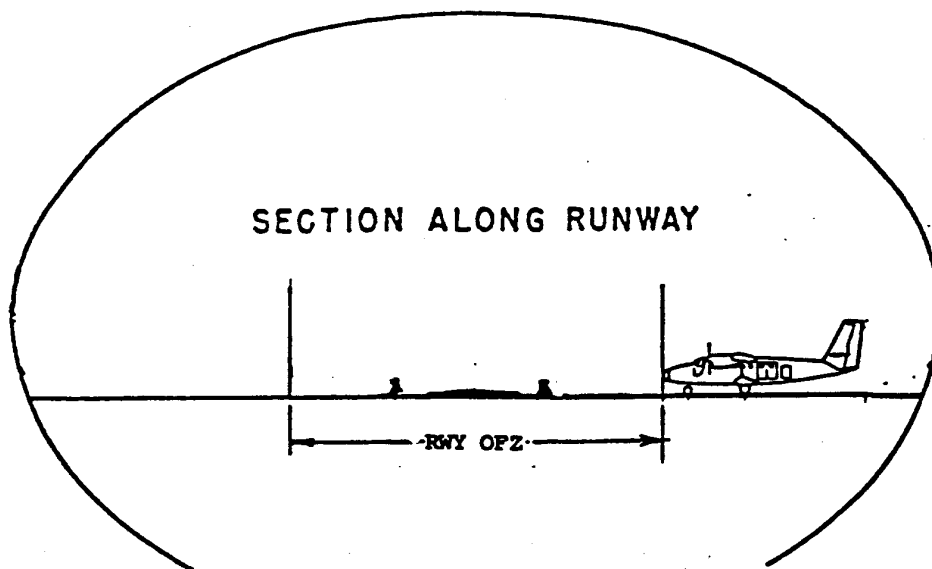
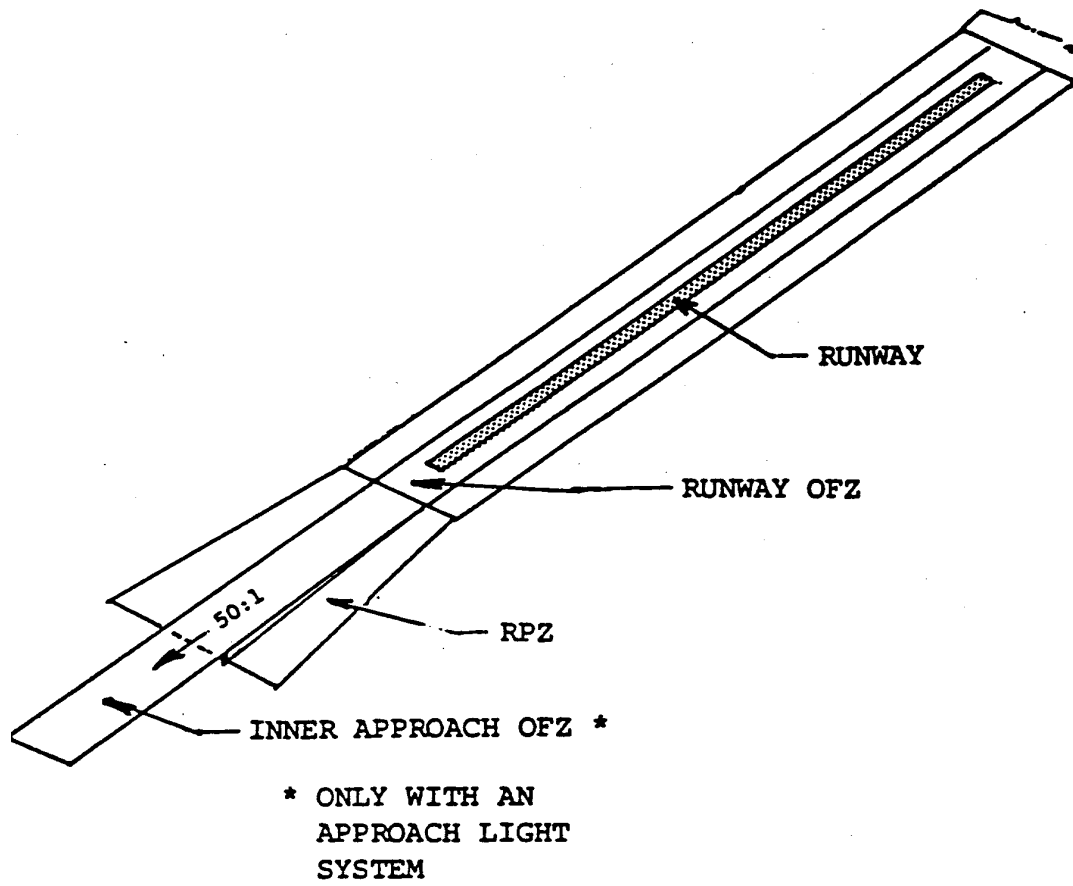
Supplementing the RPZ is an Obstacle Free Zone (OFZ). The OFZ (Figure III-6) is a three dimensional volume of airspace which supports the transition of ground to airborne aircraft operations (and vice versa). The OFZ clearing standard precludes taxiing and parked airplanes and object penetrations, except for frangible NAVAIDs whose location is fixed by function. The runway OFZ is a defined volume of airspace above a surface whose elevation at any point is the same as the elevation of the nearest point on the runway centerline. The runway OFZ extends 200 feet beyond each end of the runway in a rectangular shape with a width of 250 feet.

Safety Zone III is an outer approach zone with its principal imaginary center line(s) paralleling the normal flight approach and departure (traffic pattern) paths pilots use to and from the airport. The zone also encompasses all of the potential overfly area surrounding the airport in a similar area to the horizontal surface defined in figure IV-2. This zone has a measurable accident potential, especially with a high risk of midair collisions.

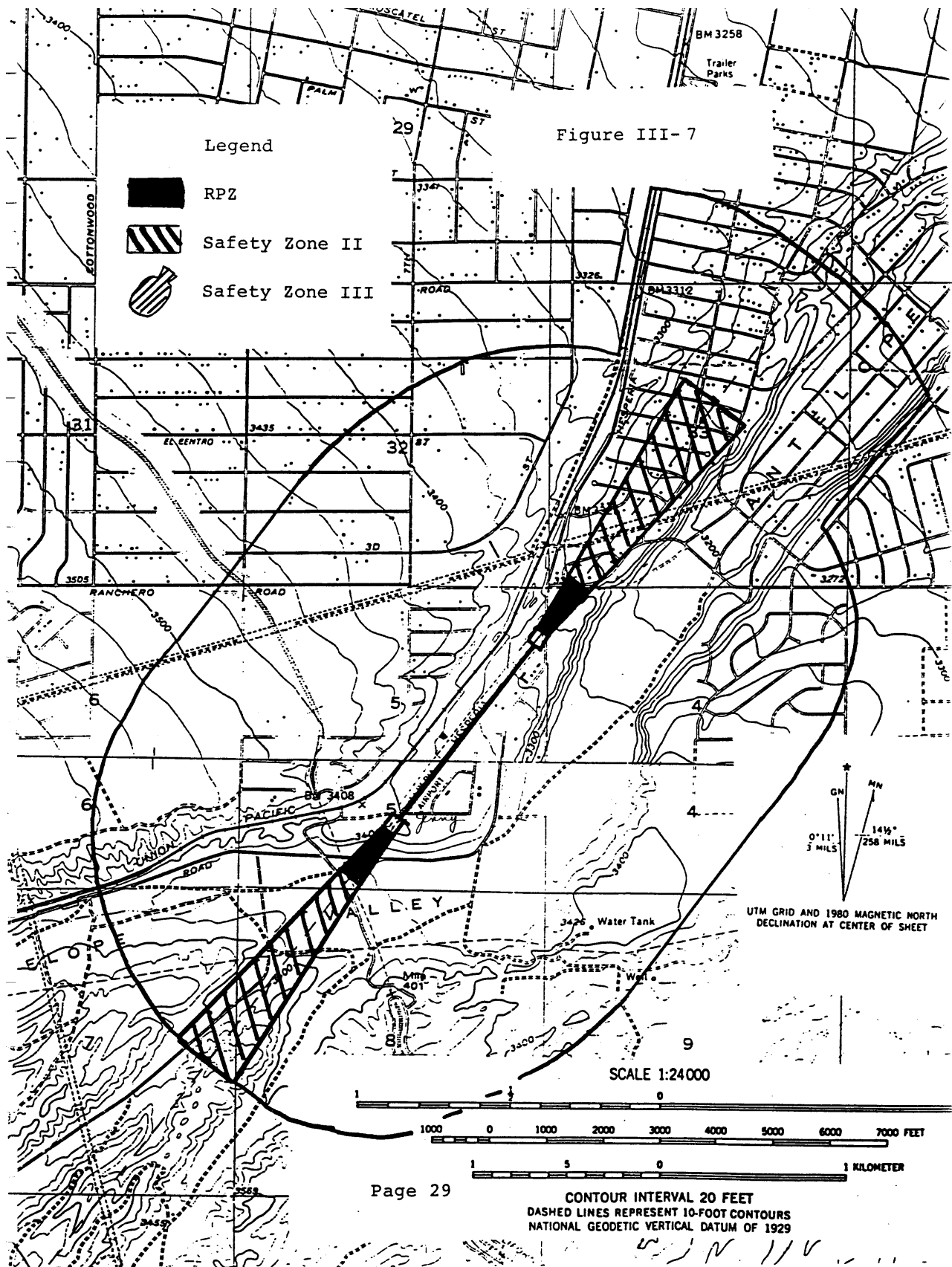
Some ALUCs will also incorporate a fourth safety zone into their CLUP's. In this case, Safety Zone III would be primarily identified as a climbout zone and Safety Zone IV as an overfly zone. This further breakdown of safety areas is normally associated with larger airports with precision instrument approach systems and heavier, more frequent traffic. A consolidation of these zones for general aviation at Hesperia is more realistic.

Figure III-7 identifies each of the Safety Zones as they relate to Hesperia Airport and the surrounding area.

Figure III-6



Obstacle free zone (OFZ) for nonprecision instrument and visual



Proposed Safety Zone Land Uses and Population Densities

a) Runway Protection Zone:

FAA AC150/5300-13 identifies a controlled activity area (Figure III-4) as the portion of the RPZ beyond the sides of the OFA. Within the area under the control of the airport authority, the following recommendations are standards.

Recommendations:

The airport owner should acquire or control the RPZ to meet the clearing and land use standards.

- i. Land use should be prohibited which might create glare and misleading lights or lead to the construction of residences, fuel handling and storage facilities, smoke generating activities, and places of assembly. Churches, schools, office buildings, shopping centers, and stadiums typify places of public assembly.
- ii. While it is desirable to clear all objects from the RPZ, uses such as agricultural operations, provided they do not attract birds, and golf courses are normally acceptable outside of the OFA. Automobile parking, although discouraged, may be permitted provided it is located outside of the runway, OFA extended and below the approach surface.

Note: The FAA studies existing and proposed objects and activities, both off and on airports, with respect to their effect upon the safe and efficient use of the airports and the safety of persons and property on the ground. These objects need not be obstructions to air navigation, as defined in FAR Part 77. As the result of a study, the FAA may issue an advisory recommendation in opposition to the presence of any off-airport object or activity in the vicinity of the airport that conflicts with an airport planning or design standard or recommendation. (AC150/5300-13 paragraph 212)

b) Safety Zone II:

Residential land use should be strongly discouraged and other land uses restricted. Density restrictions are needed to ensure that large concentrations of people are not located within this safety zone. Recommended density limits are as follows:

- uses in structures: no more than 25 persons per acre at any one time; no more than 15 people in any one building.
- uses not in structures: no more than 50 persons per acre at any one time.

The State planning handbook, contains a table (Figure III-8 of land use guidelines for safety zones, that were compiled from a variety of ALUC plans.

Examples of Land Use Guidelines for Safety Zones. (Source: Various ALUC Plans)

	DENSITY	COVERAGE	LAND USE
Runway Protection Zone	No people No more than 10 persons per acre <ul style="list-style-type: none"> - "at any one time" - "on a regular basis" - "over long periods" No more than 25 persons per acre at any time	No structures	No residential No petroleum or explosives No above grade power lines
Safety Zone II	No more than 10 people "on an annual average" "per acre" No more than 25 persons "per acre" <ul style="list-style-type: none"> - "at any time" - "over long periods" - "over 24 hours" No more than 50 persons per acre <ul style="list-style-type: none"> - "for 2 hours" - "at any time" Residential: no more than <ul style="list-style-type: none"> - 1 du per 5 acres - 1 du per acre - 1 du per 3 acres - 2 s.f. du per acre - 4 du per gross acre - 2 ½ acre lots, minimum No more than 100-150 people in a single building (AICUZ)	Maximum structural coverage must be less than: <ul style="list-style-type: none"> - 20% - 25% - 30% - 50% (AICUZ) 	Low density residential No multi-family No hotels or motels No restaurants or bars No schools, hospitals or government services No concert halls or auditoriums No industries involved in flammable materials or processes Commercial and industrial generally OK if density and lot coverage restrictions applied
Safety Zone III	No more than 50 persons over long periods No more than 4 du per acre No more than 200-300 people in a single building (AICUZ)* No more than 3 du per acre (under Traffic Pattern)	Maximum structural coverage must be less than: <ul style="list-style-type: none"> - 30% - 50% - 75% (AICUZ) Maximum structural coverage must be less than <ul style="list-style-type: none"> - 20% (Traffic Pattern) 	Generally same as above. No schools, sports arenas, auditoriums, or outdoor amphitheaters No industries involved with flammable materials or processes

Legend:

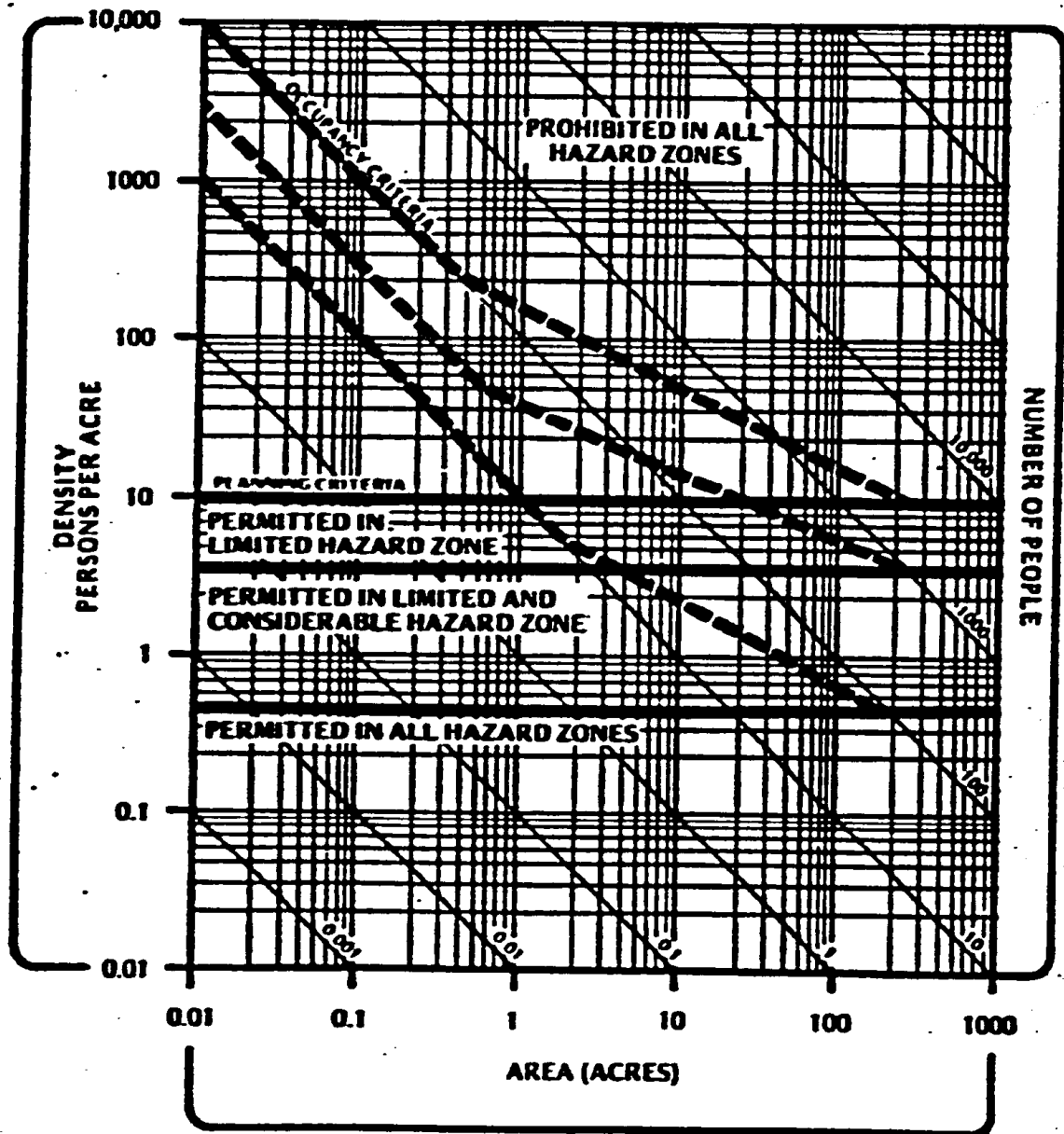
du-dwelling unit(s)

*most recent guidelines do not specify numbers of persons per building; however, intent is to avoid large concentrations of persons in a single structure

Figure III-8

Suggested Density Criteria

Figure III-9



SOURCE: Wiley & Ham

Figure III-8 shows that other ALUCs have criteria ranging from one dwelling per acre up to one dwelling per five acres. The specific type and number of operations at each airport, plays an important part when establishing limitations in Safety Zone II.

The San Bernardino County General Plan, Man-Made Hazards, contains suggested density criteria (Figure III-9) and air safety zone and land use suitability matrixes, along with other recommendations and standards. A departmental review of all residential development that exceeds a density of two dwelling units per gross acre is also required.

c) Safety Zone III:

Generally, ALUCs place few restrictions on residential uses within this area. Strong emphasis is still placed on limiting large assemblies of people in uses such as:

- Hospitals
- Stadiums and arenas
- Auditoriums and concert halls
- Outdoor amphitheaters and music shells
- Regional shopping centers
- Jails and detention centers

Additionally, land use activities which may present visual, electronic, or physical hazards to aircraft in flight should be avoided in this and all other safety zones. Visual hazards include distracting lights (particularly lights which can be confused with airfield lights), glare, and sources of smoke. Electronic hazards include any uses which interfere with aircraft radio communications. The principal physical hazards, other than the height of structures, are bird strikes. Any land uses which can attract birds should be avoided. Particularly inappropriate uses are artificial attractors and sanitary landfills.

The Sacramento Area Council of Governments (SACOG) has studied density criteria and land use compatibility in safety zones at length. SACOG's guidelines provide a frequently used model for ALUCs and these guidelines are included as Figure III-11.

Shielding

One effective method which could be considered to minimize the crash hazard result to people on the ground, is to shield them, and structures from the potential direct impact of aircraft. This can be achieved by planting trees in front of structures or by locating new buildings behind trees, other natural or man made barriers or other existing buildings. Additionally, buildings could be constructed of brick or concrete in order to prevent light aircraft from penetrating through the structure.

Figure III-10

Land Use Compatibility in Aviation Safety Areas

LAND USE	SAFETY AREA			
	1	2	3	4
Residential single-family, duplex, multi-family, mobile homes	Clearly Unacceptable	Clearly Unacceptable	Normally Acceptable*	Normally Acceptable*
Hotels, motels, transient lodging	Clearly Unacceptable	Clearly Unacceptable	Normally Acceptable	Clearly Unacceptable
Schools, nursing homes, libraries, churches, hospitals	Clearly Unacceptable	Clearly Unacceptable	Normally Acceptable	Clearly Unacceptable
Auditoriums, concert halls, amphitheaters	Clearly Unacceptable	Clearly Unacceptable	Normally Acceptable	Clearly Unacceptable
Sports areans, outdoor spectator sports	Clearly Unacceptable	Clearly Unacceptable*	Normally Acceptable*	Clearly Unacceptable*
Playgrounds, neighborhood parks	Clearly Unacceptable	Normally Unacceptable	Normally Acceptable	Normally Acceptable
Golf courses, riding stables, water recreation, cemeteries	Normally Unacceptable	Normally Acceptable	Clearly Acceptable	Clearly Acceptable
Office buildings, personal, professional	Clearly Unacceptable*	Clearly Unacceptable*	Normally Acceptable*	Clearly Unacceptable*
Commercial – retail, movie theaters, restaurants	Clearly Unacceptable*	Clearly Unacceptable	Normally Acceptable	Clearly Unacceptable
Commercial – wholesale, some retail, industry, manufacturing, utilities	Clearly Unacceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable
Livestock, farming, animal breeding	Normally Unacceptable*	Normally Acceptable*	Clearly Acceptable*	Clearly Acceptable*
Agriculture (except livestock), mining and fishing	Normally Acceptable	Clearly Acceptable	Clearly Acceptable	Clearly Acceptable
Extensive natural recreation	Normally Acceptable	Clearly Acceptable	Clearly Acceptable	Clearly Acceptable
Maximum gross density recommended (persons per acre)	.5	25	No Limit	10**
Maximum assembly recommended (persons)	10	100	No Limit	100**
<p>Safety Review Area 1 – Area at either end of a runway inside and outside of the airport boundaries, and labeled clear zone as defined by FAA or Military AICUZ studies.</p> <p>Safety Review Area 2 – Area outside the airport boundaries but within the 65 Ldn noise contour.</p> <p>Safety Review Area 3 – Varies with the airport but generally: a) For airports with a 65 Ldn noise contour, area outside the 65 Ldn noise contour; b) For airports without the 65 Ldn noise contour, area within one mile of the outer boundaries of the airport ownership.</p> <p>Safety Review Area 4 – Varies with the facility: China Lake and George – one mile outside the 65 Ldn contour. Norton – within a 5-mile radius of the base. Low Altitude Corridors – entire area beneath the corridors.</p> <p>Clearly Acceptable – No restrictions. Normally Acceptable – Restricted development undertaken only after detailed analysis and satisfactory mitigation measures are initiated. Normally Unacceptable – No new development. Clearly Unacceptable – New construction or development should generally not be undertaken. Existing uses should be relocated.</p> <p>* Some specific uses in this group may meet density criteria and be more acceptable.</p> <p>** Applies for low altitude flight corridor only. Unlimited occupancy in other Safety Area 4 locations.</p>				

Figure III-11

LAND USE COMPATIBILITY GUIDELINES FOR SAFETY¹

LAND USE CATEGORY	COMPATIBILITY WITH		
	RUNWAY PROTECTION ZONE	SAFETY ZONE II	SAFETY ZONE III
<u>RESIDENTIAL</u>			
Single-family detached	No	Yes ²	Yes
Two-family dwelling	No	No	Yes
Multi-family dwelling	No	No	Yes
Group quarters	No	No	Yes
Mobile home parks or courts	No	No	Yes
<u>MANUFACTURING</u>			
Food and kindred products	No	Yes ³	Yes
Textiles and apparel	No	Yes ³	Yes
Transportation equipment	No	Yes ³	Yes
Lumber and wood products	No	Yes ³	Yes
Furniture and fixtures	No	Yes ³	Yes
Paper and allied products	No	Yes ³	Yes
Printing and publishing	No	Yes ³	Yes
Chemicals and allied products	No	No	No
Petroleum refining	No	No	No
Rubber and plastic	No	No	No
Stone, clay and glass	No	Yes ³	Yes
Primary and fabricated metal	No	Yes ³	Yes
Electrical and electronics	No	Yes ³	Yes
Miscellaneous manufacturing	No	Yes ³	Yes
<u>TRANSPORTATION, COMMUNICATIONS, AND UTILITIES</u>			
Passenger terminals	No	No	Yes
Streets, roads, highways and rail lines	Yes ⁴	Yes ³	Yes
Parking lots	No	Yes ³	Yes
Radio & TV stations, telephone service	No	Yes ³	Yes
Electric, gas, water, & sewer plants	No	No	Yes
Trucking and rail freight terminals	No	Yes ³	Yes
Landfills	No	No	Yes ⁵
Hazardous waste facilities	No	No	No
<u>TRADE, BUSINESS, AND OFFICE SERVICES</u>			
Wholesale trade and distribution	No	Yes ³	Yes
Warehousing and storage	No	Yes ³	Yes
Retail trade- general	No	Yes ³	Yes
Service stations	No	No	Yes
Eating and drinking	No	Yes ³	Yes
Hotels, motels, and campgrounds	No	No	Yes
Repair services	No	Yes ³	Yes
Personal services	No	Yes ³	Yes
Business services	No	Yes ³	Yes
Banks and financial services	No	Yes ³	Yes
Business parks	No	Yes ³	Yes
Office buildings	No	Yes ³	Yes
<u>PUBLIC AND QUASI-PUBLIC SERVICES</u>			
Government services	No	Yes ³	Yes
Schools	No	No	Yes ⁶
Hospitals	No	No	No
Medical clinics	No	No	Yes
Libraries, museums, and art galleries	No	No	Yes
Churches	No	No	Yes
Cemeteries	No	Yes ³	Yes
Jails and detention centers	No	No	No
Child care centers (6 or more children)	No	No	Yes

LAND USE COMPATIBILITY GUIDELINES FOR SAFETY¹

LAND USE CATEGORY	COMPATIBILITY WITH		
	RUNWAY PROTECTION ZONE	SAFETY ZONE II	SAFETY ZONE III
<u>SHOPPING DISTRICTS</u>			
Neighborhood shopping center	No	No	Yes
Community shopping center	No	No	Yes
Regional shopping center	No	No	No
<u>RECREATION</u>			
Neighborhood parks	No	No	Yes
Community-wide regional park	No	No	Yes
Riding stables	No	Yes ^{3,7}	Yes
Golf courses	No	Yes ^{3,7}	Yes
Open space and natural areas	Yes ^{4,5}	Yes ^{3,7}	Yes
Water areas	Yes ^{4,5}	Yes ^{5,7}	Yes
Indoor recreation and amusements	No	No	Yes
<u>PUBLIC ASSEMBLY</u>			
Motion picture theater-single or double	No	No	Yes
Motion picture theater complex, 3 or more	No	No	No
Stadiums and arenas	No	No	No
Auditoriums, concert halls, amphitheaters	No	No	No
Fairgrounds	No	No	No
<u>AGRICULTURE AND MINING</u>			
Agriculture - row crops	Yes ^{4,5}	Yes ⁵	Yes
Agriculture - tree crops	No	Yes ⁵	Yes
Agriculture - intensive livestock	No	Yes ³	Yes
Pasture and grazing	Yes ^{4,5}	Yes	Yes
Agricultural services	No	Yes ³	Yes
Mining and quarrying	No	Yes ^{3,5}	Yes

FOOTNOTES:

1. These guidelines define only those land uses which are compatible within safety areas. Where proposed land uses fall within the established noise contours or may penetrate any of the height imaginary surfaces, additional restrictions apply as contained in the height and noise policy sections of this plan.
2. Single-family detached residential is a compatible land use only if the density is five acres or more per single family residence.
3. Uses compatible only if they do not result in a large concentration of people. A large concentration of people is defined as a gathering of individuals in an area that would result in an average density of greater than 25 people per acre per hour during a 24 hour period, or a single event that would result in a gathering of greater than 50 people per acre at any time. (See Appendix A).
4. No building, structures, aboveground transmission lines, or aboveground storage of flammable or explosive material, and no uses resulting in a gathering of more than 10 people per acre at any time.
5. Uses compatible only if they do not result in a possibility that a water area may cause ground fog or result in a bird hazard.
6. Uses compatible only if the requirements of California Education code, Sections 39005-7, 81036, and 81038 are fulfilled.
7. No high-intensity use or facilities, such as structured playgrounds, ballfields, or picnic pavillions.

HEIGHT IMPACT

and

REFERRAL AREAS

AIRSPACE RESTRICTIONS

Federal rule (14 CFR Part 77)* clearly establishes criteria for height restrictions in the vicinity of airports. In addition, it notices requirements for construction that could impact airspace anywhere within the nation. All ALUCs base height limitations on FAR Part 77 and San Bernardino County has adopted Part 77 standards into its General Plan**.

Height restrictions are necessary to protect navigable airspace required for safe air operations. California's airport land use planning laws further attempt to effectively mitigate the potential threat to the public's safety and welfare that could be caused by incidents in conflict with structures that impose into the states airspace.

Specifically impacting all decisions on airspace located above the City of Hesperia, other areas located above the City of Hesperia Sphere of Influence and the unincorporated county area in the vicinity, is the fact that no Instrument Flight Rule (IFR) capacity exists at Hesperia Airport, and subsequently, all operations are conducted on a Visual Flight Rule (VFR) basis. It is common for pilots flying VFR to navigate by using visual references. In this respect the Union Pacific & AT&SF Railroad is a perfect locator as it leads directly to the airport from both the northern and southwesterly directions. The combination of the railroad, other visual reference points and in some cases electronic navigational aids forms a network of VFR "flyways". The safety of aircraft operations along these flyways is most effected by tall structures when weather is marginal. It is during these conditions that pilots must fly at low altitudes to remain in visual contact with the ground.

It is important to note that Part 77 obstruction standards, which are used by ALUCs as height limits, are used by the FAA in quite a different manner. These standards identify elevations above which air safety may be a problem subject to further review on a case by case basis. If a determination is made indicating a hazard to air navigation, the FAA's authority ceases at this point. It is then up to local zoning agencies to enforce the FAA recommendations and relieve the safety problem. The standards attempt to provide a reasonable and defensible balance between the needs of the airspace users and the rights of the property owners beneath the flight patterns.

* Appendix "C" - FAR Part 77.

** San Bernardino County - General Plan Update Background report, Man-made hazards - Airport Safety Issue.

The standards applicable, in FAR Part 77, as they relate to Hesperia Airport and the surrounding region, are divided into two principal elements, notice requirements and obstruction standards.

1) Notice requirements: FAR Part 77.11 through 77.19.

This section requires that each person proposing any kind of construction or alteration, as described below, within the City of Hesperia limits or within other areas within the vicinity, notify the FAA administrator of their intentions. This section also specifies the procedure for notification and details some exceptions.

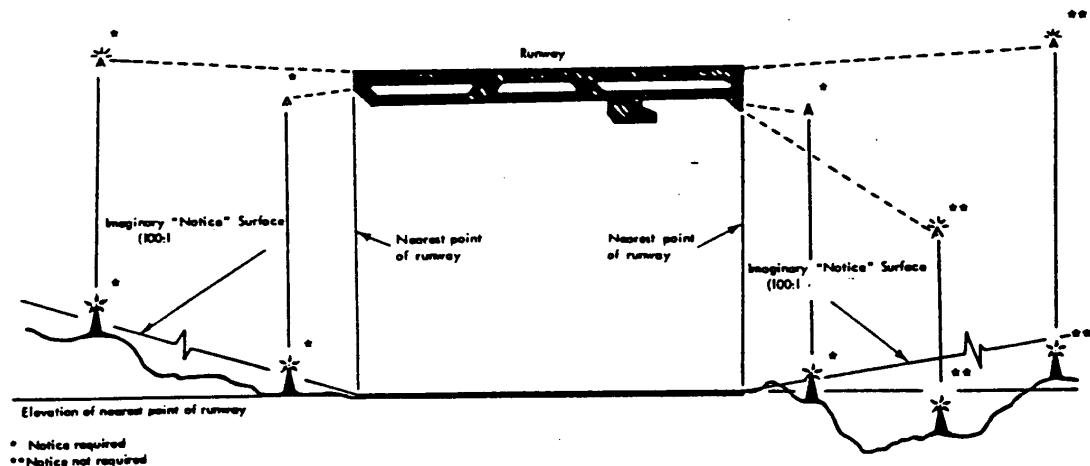
Minimum notice requirements:

Any construction or alteration of:

- more than 200 feet in height above the ground level at its site, and/or
- a greater height than an imaginary surface extending outward and upward at a slope of 100 to 1 for a horizontal distance of 20,000 feet from the nearest point of the nearest runway (see Figure IV-1)

Figure IV-1

§ 77.13(a)(2) – NOTICE REQUIREMENT RELATED TO AIRPORTS



SUBPART 8 – NOTICE OF CONSTRUCTION OR ALTERATION

Note: Each airport must be available for public use and listed in the Airport Directory of the current Airmen's Information Manual, or in either the Alaska or Pacific Airmen's Guide and Chart Supplement; under construction and the subject of a notice or proposal on file with FAA, and except for Military airports, it is clearly indicated that that airport will be available for public use, or operated by an armed force of the United States. (Heliports and

seaplane bases without specified boundaries are excluded.)
 §77.13(a)(2) – A notice is required for any proposed construction or alteration that would be of greater height than an imaginary surface extending outward and upward at one of the following slopes –
 (i) 100 to 1 for a horizontal distance of 20,000 feet from the nearest point of the nearest runway of each airport with at least one runway more than 3,200 feet in actual length.

(Note: §77.13(a)(5) requires notice of any proposed construction or alteration on each airport, including heliports.)

2) Obstruction standards: FAR Part 77.21 through 77.25.

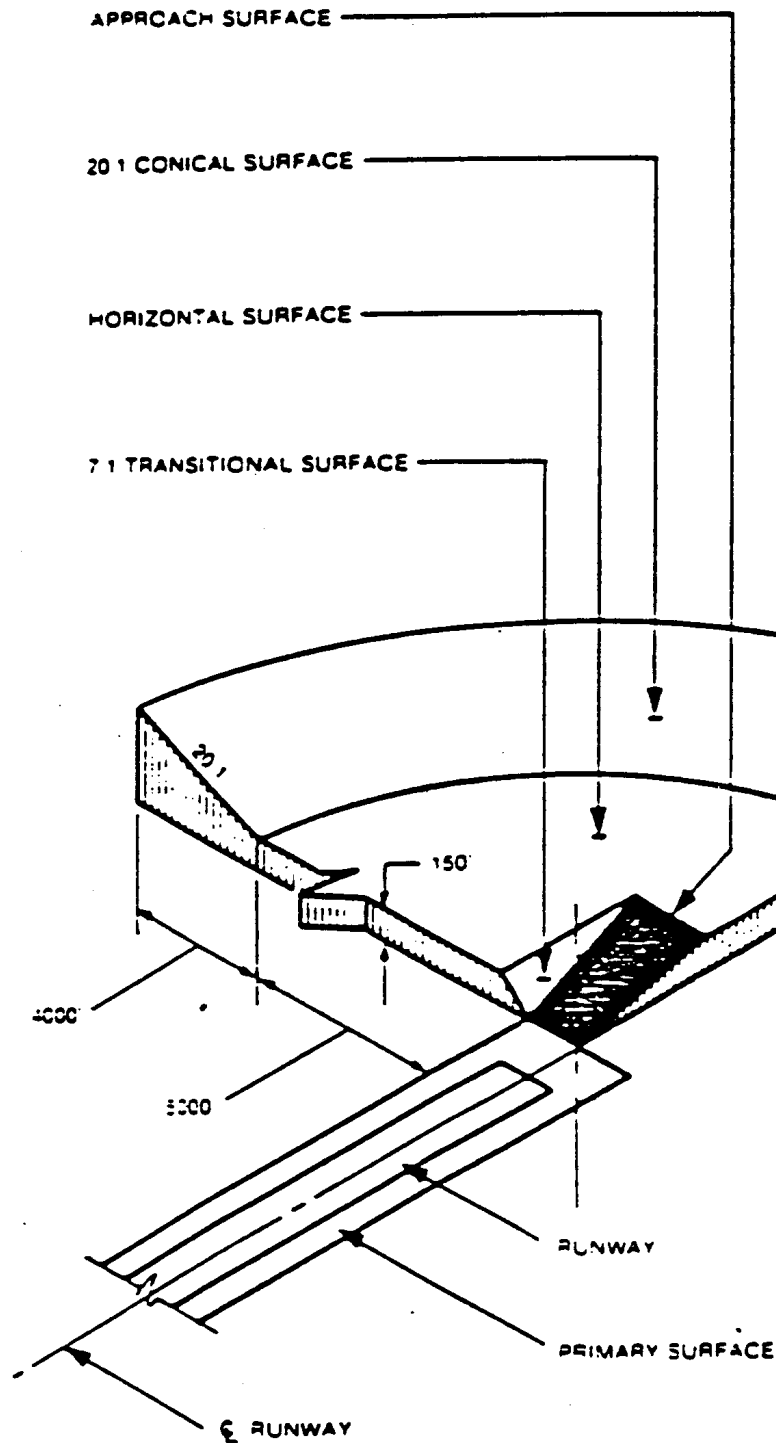
This section establishes standards for determining obstructions to air navigation. It applies to existing and proposed manmade objects, objects of natural growth, and terrain. The standards apply to the use of navigable airspace by aircraft and to existing air navigation facilities, such as an air navigation aid, airport, Federal airway, instrument approach or departure procedure, or approved off-airway route. Additionally, they apply to a planned facility or use, or a change in an existing facility or use.

Obstruction planning criteria is established by the use of imaginary surfaces, formulated to conform with the size and use of any particular airport. The imaginary surfaces determined by FAR Part 77.25 and applicable to Hesperia Airport are as follows:

- a) Primary Surface: A surface longitudinally centered along the runway, extending 200 feet beyond each end of the paved runway and having a total width of 250 feet. Note that the elevation of any point on the primary surface is the same as the elevation of the nearest point on the runway centerline.
- b) Horizontal Surface: A horizontal plane 150 feet above the established airport elevation, the perimeter of which is constructed by swinging an arc 5,000 feet out from the center of each end of the primary surface and connecting the adjacent arcs of lines tangent to these arcs.
- c) Conical Surface: A surface extending outward and upward from the periphery of the horizontal surface at a slope of 20 to 1 for a horizontal distance of 4,000 feet.
- d) Approach Surface: A surface longitudinally centered on the extended runway centerline and extending outward and upward from each end of the primary surface. The approach surface is applied to both runways 3 and 21. The inner edge of the approach surface is 250 feet in width, extending uniformly to a width of 1,250 feet at a horizontal distance of 5,000 feet at a slope of 20 to 1.
- e) Transitional Surface: These surfaces extend outward and upward at right angles to the runway centerline and the runway centerline extended at a slope of 7 to 1 from the sides of the primary surface and from the sides of the approach surface. Transitional surfaces for those portions of the precision approach surface which project through and beyond the limits of the conical surface, extended a distance of 5,000 feet measured horizontally from the edge of the approach surface and at right angles to the runway centerline.

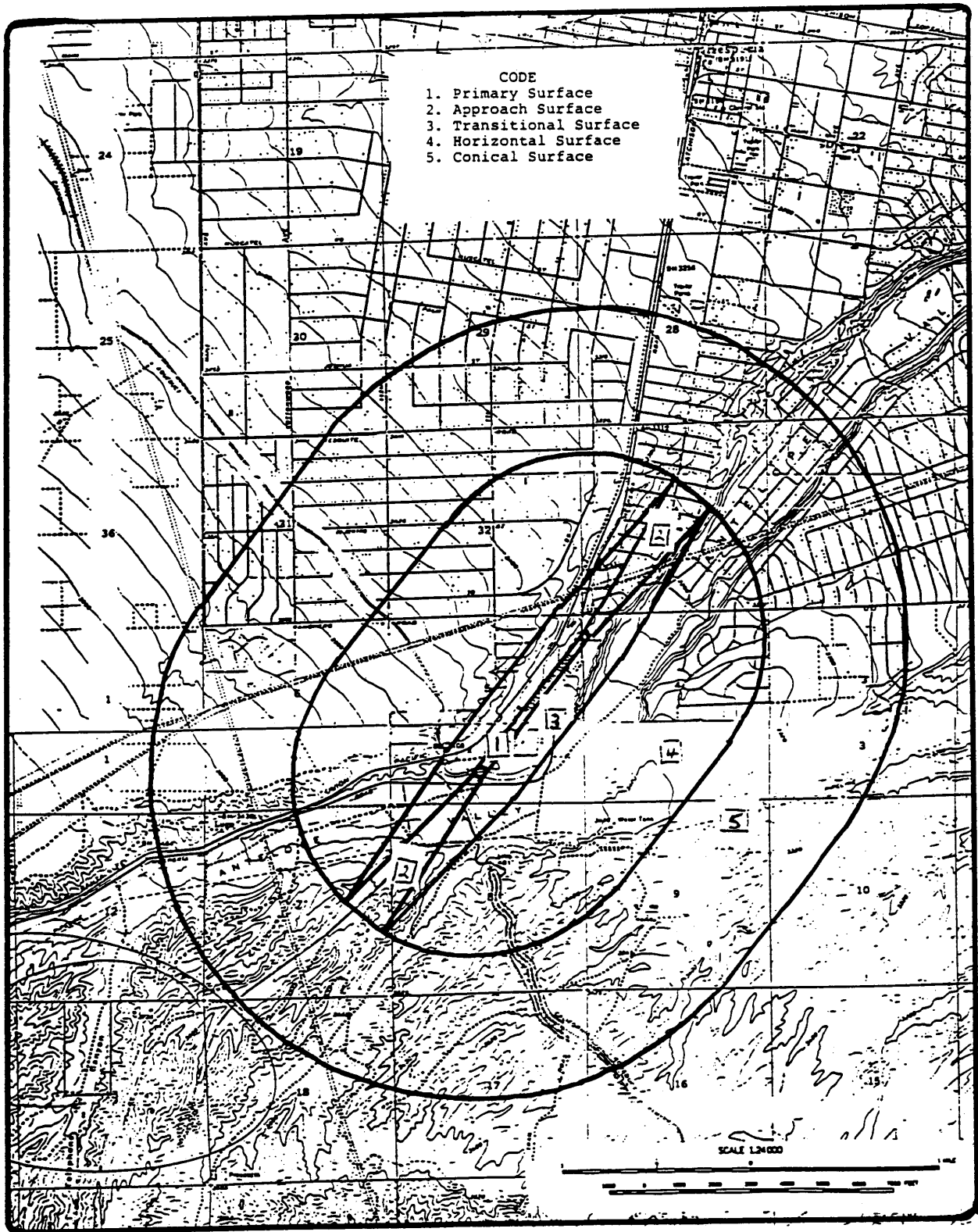
Figure IV-2 provides an Isometric View of the imaginary surfaces determined by Part 77.25. Figure IV-3 shows the actual height restriction planning boundaries located within the area surrounding Hesperia Airport.

Figure IV-2



PART 77 CIVIL AIRPORT IMAGINARY SURFACES

Figure IV-3



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OTHER IMPACTS

And

ENVIRONMENTAL REVIEW

OTHER IMPACTS

- No elements, apart from those previously identified in this plan, were found to impact the areas surrounding Hesperia airport.
- No ground access problems could be anticipated.
- Existing encroachment on the perimeter of the airport ensures that a Precision Landing System will never be used, and thus no additional NAVAIDs are contemplated within the region.

ENVIRONMENTAL REPORT

Due to the limitations described within this plan, the maximum potential aircraft operations, airport boundary changes, and facility expansion, remains insignificant.

No specific environmental review should be required for this plan, except that, a review should be undertaken at such time, as consistency between this plan and the City of Hesperia's General Plan, is undertaken.

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APPENDICES